THE EFFECTS OF ANXIETY ON COLLEGIATE TEST PERFORMANCE

A Thesis

Presented to the

Faculty of the College of Graduate Studies and Research

Angelo State University

In Partial Fulfillment of the

Requirements for the Degree

MASTER OF SOCIAL WORK

by

ABIGALE KUBALA

August 2021

Major: Social Work

THE EFFECTS OF TEST ANXIETY ON COLLEGIATE TEST PERFORMANCE

by

ABIGALE KUBALA

APPROVED:

Dr. Christopher Shar

Dr. Thomas W. Starkey

Mr. Samuel Gallander

Dr. Karen Cody

August 2021

APPROVED:

Dr. Micheal W. Salisbury
Dean, College of Graduate Studies and Research

ACKNOWLEDGEMENTS

The genesis of this thesis project was centered around the idea that one of the biggest stressors in the life of a college student is undoubtedly the exam. The world has changed immensely during the duration of this thesis study, which has altered and hindered this project in many ways. Through this journey, I owe the dearest and deepest respects to all of those who have offered their best support. Foremost, I must thank Dr. Christopher Shar; your guidance and insight has been indelible, I would not have been able to construct or execute this work without your instruction and peace. Thank you! Additionally, I am grateful to the professors who make up my thesis committee; Dr. Thomas Starkey, Dr. Karen Cody, and Samuel Gallander. LCSW. This has been an incredible learning experience that will undoubtedly aid me in all that I do academically and professionally in the future, and it would not have been possible without your added knowledge. To Dr Carr, Dr Shar, Dr Starkey, Andrew Rivera, Ingrid Russo, and Chelsea Kading, I offer additional thanks for allowing me to use your time, resources, and class to gather the needed data. I must also thank the entire Social Work faculty who have worked so hard to create a successful and educational program, which will continue to grow and create members of the Social Work cohort that will better the world. Finally, thank you to my husband and my family. Being a student, wife, and professional is not an easy task, and could not have been done successfully without their endless and compassionate support.

For Wayne and Alice Dana, Thank you for instilling in me the value of education.

ABSTRACT

A sample population of 25 students completed a survey comprised of eight variables and two published anxiety scales: the Generalized Anxiety Disorder 7-Item (GAD-7) Scale and the Westside Test Anxiety Scale (WTAS). The results of the *t*-test indicated that there was not a statistically significant effect, $t(23) = -.356$, $p = .725$. Generalized anxiety did not affect the sample's exam score, $t(23) = -.003$, $p = .997$, The correlation analysis indicated that there was no significant correlation between the GAD-7 and WTAS scores, $r(23) = .082$, $p = 696$. Participants reported that 84% feel as though they suffer from test anxiety, and 64% indicted that they have a current diagnosis of anxiety. 44% of the reported test anxiety measured at extremely high levels of anxiety. This information can be used to create programs that are accessible to the students to help recognize, diagnose, and treat the anxiety.

TABLE OF CONTENTS

INTRODUCTION

One could argue that the main measure of success at the university level is academic performance, which is largely measured through testing. Most students are required to complete multiple exams for one course, often taking four courses a semester at the undergraduate level. In addition to the quantity and frequency of the exams, there need also be a consideration of the weight in which the exams carry in the formula of the students ending grade or percentage for the course. Grades not only secure degrees, but also help students secure scholarships and other financial benefits, higher education opportunities, internships which can lead to job offers, research opportunities, and participation in extracurricular activities such as sports and organizations. With all factors considered, the idea of test anxiety is not an underserved notion. The Fall 2018 National College Health Assessment reported that 63% of college students felt an overwhelming level of anxiety in the previous year and that 23% of college students had been diagnosed with or treated for anxiety within the same span of time (ACHA, 2018). Students who reported high test anxiety were observed to have scored almost a half a standard deviation below their less anxious peers. In a National College Health Assessment (2019) survey of graduate-level students, almost one-quarter (22.6%) of respondents indicated they had been diagnosed with a chronic anxiety-related condition; almost three-quarters (73.1%) of respondents reported having seen a health care professional for anxiety in the past year; and over one-fifth (21.8%) of respondents indicated that anxiety had negatively impacted performance in a class or progress toward a degree.

Publication Manual of the APA

As test anxiety is a form of anxiety, one must first examine anxiety as a whole. From the beginning of recorded history, humans have attempted to understand a wide range of emotions, including anxiety. Donald Franklin Klein, an American psychiatrist who specializes in anxiety, suggests that focus on anxiety has not been a continuous line of evolution, but rather zig-zags of attention and development to the theories of anxiety (Klein, 2002). Anxiety appears to be conceptually discussed in ancient Greek and Roman sources, one prominent example being the *Tusculan Disputations* written by the philosopher Cicero. In more recent times psychologists such as Pavlov, Freud, and Mowrer have contributed to the formation of the definition pertaining to modern-day anxiety.

In the social work profession, the ethical principal of social justice states that social workers should strive to ensure access to needed information, services and resources; equality of opportunity; and meaningful participation in decision making for all people (NASW, 2008). By researching the presence of test anxiety and the potential effect that it has on test scores, advocacy for students can occur, which has the properties to potentially elicit change in university policy and the treatment of the disorder within the student population.

PURPOSE OF THE STUDY

The research topic will help to indicate a possible correlation between test anxiety and exam scores. This information would be extremely beneficial to students and educators alike. If the presence of test anxiety can be shown through the proposed data retrieval, interventions can occur that will increase the student's ability to cope with test anxiety, resulting in a higher preforming student and university. At this time, Angelo State University (ASU) offers a counseling center. This center markets their services to students who are suffering from issues like depression, anxiety, adjustment issues, relationship problems, academic concerns, emergencies or trauma (ASU, 2021). Angelo State University also has a web page dedicated to Resources for College Success, which offers three links related to test prep, handling anxiety, and a test question strategy. Additionally, there is an acronym found on the ASU web page which reads; Prep for tests, Assess anxiety, Strategies for test taking, and Stress management, PASS (ASU, 2021). Angelo State University also has a tutoring center which offers allotted times to assist student with a range of subjects. While these resources can be helpful to students, there can also be many roadblocks preventing students from acquiring these resources. Currently, the tutoring center and the counseling center require students to make appointments or be available at a predetermined time to receive these services. Finding the time in the student's schedule may not be a possibility as students have other responsibilities including work, other classes, or even families. These resources also require reliable transportation or access to the course materials or technology needed to participate in tutoring or even the course. Although ASU offers several assistive programs to students, the programs could be inaccessible as highlighted in the previous antidotes. Without

access to these programs, students may be unable to address their needs resulting in an increase in anxiety.

As the research conducted by the student is straightforward and repeatable, there is potential to use this research and replicate it on a larger scale. This data collection could help educators and leaders alike to recognize test anxiety in the population of their students and create a more responsive culture to text anxiety.

LITERATURE REVIEW

In the first version of the Diagnostic and Statistical Manual (DSM), anxiety was classified as a psychoneurotic disorder that was interpreted as a danger signal sent and perceived by the conscious portion of the personality (American Psychological Association, 1952). The current Diagnostic and Statistical Manual, the DSM-5, describes anxiety as anticipation of a future threat (American Psychiatric Association, 2013, pg. 189). However, before the creation of the DSM, there are many writings from philosophers, physicians, and scholars depicting the idea of anxiety.

The Tusculan Dispositions, a series of five books written in approximately 45 BC by the Roman philosopher Cicero, state that affliction (*molestia*), worry (*sollicitudo*) and anxiety *(angor*) are called disorders in an analogy of a troubled mind and diseased body (*The Tusculan Dispositions,* Book III, X). This writing helped to differentiate anxiety from a similar emotion: sadness. The writings also placed anxiety into the category of a medical illness. As anxiety began to become more popular and widely recognized, it started to take precedence in many other theories, including the learning theory formulated by American psychologist Orval Hobart Mowrer. Mower's theory states that anxiety is described as a conditional part of fear, and that principal is then used to help determine behavior. For example, an unconditioned stimulus (US) causes an unconditioned response (UR). When there is a stimulus that consistently precedes the US, and releases a conditioned response (CR), such as anxiety, then, a secondary drive is initiated and incites an avoidant behavior, or escape behavior. Therefore, the person feels the CR and uses escape behavior to avoid that feeling of anxiety (Mower, 1947). The understanding of this theory can be used by

behavioral therapists to help pinpoint the subjective origin of anxiety and create a treatment plan.

As Mowrer's learning theory suggests, test anxiety could be created by the conditioned response of the perceived punishment of preforming poorly on an exam. The Anxiety and Depression Association of America (ADAA) lists fear of failure, lack of preparation, and poor test history as potential causes of test anxiety (Anxiety and Depression Association of America, 2020). The DSM-5 does not currently include diagnostic criteria for test anxiety; however, test anxiety can fall under the umbrella of the Specific Phobia or Social Anxiety Disorder as a diagnosis. Common symptoms of anxiety can be divided into three categories: physical symptoms, emotional symptoms, and cognitive behavioral symptoms (American Psychological Association, 2013). Physical symptoms include excessive sweating, shortness of breath, rapid heartbeat, headache, nausea, and diarrhea (American Psychological Association, 2013). Emotional symptoms are feelings of fear, anger, and helplessness or disappointment (American Psychological Association, 2013). Behavioral and cognitive symptoms include difficulty concentrating, thinking negatively, and comparing oneself to others (American Psychological Association, 2013). To comprehend the specificity of test anxiety, we must first investigate the theories of anxiety as a whole.

Theories of Anxiety

Researcher, professor, and head of the psychology department at the University of Canterbury in New Zealand, K. T. Strongman has categorized different theories of anxiety under the following psychoanalytic, learning/behavioral, physiological, phenomenological/existential, cognitive, and those concerned with uncertainty (Strongman, 1995). When considering a psychoanalytic theorist, one will undoubtedly think of

psychologist Sigmund Freud. While perhaps Freud's most remembered contribution to psychoanalytic study is the study of dreams and the subconscious, namely the id, ego, and superego, he has also contributed to the idea of anxiety. Between the years of 1893 to 1897, Freud formulated three theories of neurosis, or anxiety, centered respectively on psychic trauma and defense, sexual trauma, and repressed sexuality (Sletvold, 2016). In keeping with many of his theories, Freud considered the root of problems to exist at early stages of development (Kennard, 2008). Within those theories, Freud spoke about two different types of anxiety, automatic and neurotic (Pekker, 2012). Automatic anxiety was an affective reaction to the helplessness experienced during a traumatic experience; neurotic anxiety is mediated by the ego and is a signal anxiety to warn of danger situations: loss of an object, loss of the objects love, threat of castration, and fear of punishment by the superego, that are originated from birth but experienced continuously after (Pekker, 2012).

The learning and behavioral basis for the theory of anxiety boasts psychologists such as Pavlov, Watson, and Mowrer in its ranks. Learning and behavioral theories demonstrate the relationship between avoidance of stimuli through a mediating mechanism, which can be fear or anxiety (Strongman, 1995). Essentially, subjects experience a threat of discomfort and overstimulation or an increase in primary drives which results in anxiety and when placed in a similar situation in the future, that learned anxiety then acts as a conditioned response which helps the subject to avoid the punishment that follows the stimuli (Mower, 1953). In Mower's theory, the drive reduction follows a response, reinforces it, and then increases the future likelihood of occurrence (Mower, 1953).

Physiological theories of anxiety are related to the process of the central nervous system and its response to anxiety. Thomas Borkovec, from the Department of Psychology at

the University of Iowa, has written about a physiological model that is based on Pavlovian conditioning. Borkovec states that repeated parings of the conditioned stimulus and the unconditioned stimulus result in the elicitation of a conditioned response by the conditioned stimulus alone. In the adverse conditioning situation, there is also an autonomic and skeletal response (Borkovec, 1976). For example, a person who experiences anxiety induced rapid heartrate, or an autonomic response, during a public speaking event will continue to have rapid heartrate when thinking about or participating in public speaking. It is also determined that speech anxious people who worry just prior to imaginal exposure to repeated public speaking images show reduced cardiovascular response to those images, whereas those who think relaxing or neutral thoughts before imaginal exposure show strong cardiac response with habituation across images (Newman & Llera, 2011).

To consider the phenomenological or existential theories of anxiety, one must venture back over 100 years to examine the writings of Danish philosopher, theologian, and poet Søren Kierkegaard. Kierkegaard stated that anxiety is a naturally occurring state of a person and is independent from any object. For Kierkegaard, every action has a moment in which that action is willed. Part of his solution to the subjective experience of anxiety is to focus the mind upon the present and thereby not to catastrophize about the possibilities that still lie in the future (Rosner, 2020). This is an idea which differentiates anxiety from fear, as the emotion of fear is ultimately focused on a single object. The development and maturity of a person depends on freedom, which itself is dependent on being aware of the possibilities that life has to offer. Kierkegaard's theory states that considering such possibilities must include anxiety, as there is anxiety at every choice point. Therefore, dealing with anxiety is an

unavoidable part of experiencing possibility, and since life is a series of choices and possibilities, anxiety is also unavoidable (Strongman, 1995).

Cognitive theorists believe that situations on matters, by themselves, do not produce anxiety. Rather, the individuals' interpretation cause anxiety and this kind of anxiety is not related to the external world; someone might misinterpret a real situation which would cause unreal anxiety (Rieg et.al., 2007). The cognitive theories of anxiety are countless. To mention a few, Michael Eysenck, British psychologist, and Manuel G. Calvos a researcher from the Universidad de la Laguna, originally created a processing theory in 1992, which states that there is a latent cognitive vulnerability factor for generalized anxiety disorder that manifests itself under stressful conditions and is characterized by hypervigilance. Hypervigilance is found predominately in people who are predisposed to multiple cognitive anxiety traits (Eysenck & Calvo, 1992). More recently, in 2007, Michael Eysenck and his colleagues expounded on his original idea, and created the processing efficiency theory. In summary, this theory indicates that anxiety impairs the efficient functioning of the goal-directed attentional system and increases the functionality of the threat-related stimulus (Eysenck et al., 2007).

One common belief is that anxiety stems from an uncertainty, or as Kierkegaard phrased it, an awareness of possibilities. Uncertainty can also come from the inability to be certain of the correct action to take in the face of a threat. Theorists who focus on the connective token of uncertainty often consider the physiological aspect of anxiety and fear from an existential threat and creates a response of objectifying the fear (Strongman, 1995). American psychologist, Carroll Izard, views anxiety as being wholly dependent on uncertainty and can be linked with many other emotions (Izard, 1992).

Anxiety as a Motivator

If you are a person who works best under pressure, then anxiety may be a driving factor in your routine. Anxiety that motivates people is considered *eustress*, or *good stress* and is a positive response elicited from a stressor. In the case of test anxiety, the perceived anxiety of the students' performance on the exam would be a stressor that would essentially act as an enabling force on the student. This propulsion would most likely cause the student to put forth an effort in studying for the exam, seek out tutoring, or participate in other methods to help ensure that the material is understood, therefore, allowing the student to perform at a more optimal level. Using anxiety as a motivating force can be viewed as a form of emotion regulation in which a person is capitalizing on the focus, energy, and information provided by anxiety, while attenuating the subjective perception of displeasure typically associated with fear or anxiety (Strack dos Santos Goncalves et al., 2017). During Eysenck's research on anxiety and cognitive performance, he discovered that anxiety does not always impair performance effectiveness when it leads to the use of compensatory strategies: enhanced effort, and increased use of processing resources (Eysenck et al., 2007).

Anxiety as a Hinderance

In opposition to *eustress*, the negative effects of anxiety can be considered *distress*. As discussed in the different theories of anxiety, anxiety itself can be part of compound emotions. In writings, anxiety is often grouped with fear, uncertainty, anger, and numerous other emotions. These emotions can create a cognitive and/or physiological response in the human body. Hans Selys, endocrinologist and researcher known as the father of stress research, indicates that when an individual is experiencing distress, that subject is

experiencing negative emotions and physiologically measurable adverse effects on physical levels, which can be described as psychosomatic (Bienertova-Vasku et al.,2020).

Theories of Test Anxiety

Test anxiety is a specific form of the phenomena of anxiety. The anxiety can occur from many stimuli: the act of taking the test itself, the thought of taking the test, the unknown aspect of the formatting and questions of the test, the students past test taking experiences, etc. Test anxiety is defined by as an undesirable reaction towards an evaluation and is a physiological condition in which students experience extreme distress and anxiety in test situations (Dawood et al., 2016). Elaine K. Horowitz, Director of Curriculum and Instruction at the University of Texas, stated that students feel test anxiety because they did not perform at the level in which they feel is congruent with their mastery of the materials (Horwitz, 1988). In addition, test anxiety can also heighten anxious students' predisposition to other cognitive tendencies such as obsessive-compulsive disorder. Students can place extremely high expectations on their performance and execution of the preparation and exam, resulting in feelings of failure when those expectations are not reached (Eum & Rice, 2011). A broader concept is discussed by master's level student P.C. Lindsay, who's thesis is titled, *Assessing the relationships among achievement goal orientation, test anxiety, self-efficacy, metacognition, and academic performance.* states that the idea of a test in general is enough stimulus to create anxiety; the global idea of a test, or every test, is a cause for anxiety (Lindsay, 2010). Moshe Zeidner, Professor Emeritus of Educational Psychology and Human Development at the University of Haifa in Israel, highlights a theory that test anxiety is related to the overarching fear of negative evaluation (Zeidner, 2007). Of course, negative evaluation can occur in many forms, however, scores of exams present to the students a

quantifiable, objective, and blatant evaluation of their success or failure. It is also important to note that certain emotional disturbances already present in the students psyche or environment will also almost certainly have an effect on the students test anxiety.

Test Anxiety at the University Level

Test anxiety is not confined to primary school level education, or high school, but instead is experienced throughout all levels of education, including university and on all continents. A sample population of students from Aleksandër Moisiu University in Albania was given a test anxiety scale and questionnaire and the results indicated that a considerable number of students were affected, at least at some degree, by test anxiety (Trifoni & Shahini, 2011). Researchers in the Middle East studying undergraduate nursing students found that nursing students were also observed to have a high level of test anxiety despite receiving good grades throughout the semester (Akbary-boorang & Aminyazdi, 2009). Different areas of study can contribute to the level of test anxiety, this is the case specifically with medical field due to their notable workload, which leads to an increased number of studies conducted on this student population. A study conducted on students in Ethiopia indicated that 52.30% of medical students presented with problematic test anxiety (Tsegay et al., 2019). A survey conducted in the year 2012 indicated that 30 percent of freshman reported feeling frequently overwhelmed (Henriquez, 2014). In addition to the studies and polls inquiring about test anxiety, one can take a more informal approach to experience the overwhelming presence of the notion on campuses across the nation. By observing different classes as a participant, observer, or educator, one will almost certainly hear the students discussing their shared experiences with past test anxiety, and expression of current anxiety in reference to any upcoming exams.

RESEARCH QUESTIONS AND HYPOTHESIS

The data gathered from the assessments and questionnaires was compiled and analyzed using an independent *t*-test, comparing the exam scores of students who reported levels of test anxiety with the exam scores of students who reported no test anxiety as measured by the Westside Test Anxiety Scale (WTAS). Similarly, an independent t-test compared the exam scores of students who reported generalized anxiety with the students who reported no generalized anxiety as measured by the Generalized Anxiety Disorder 7-Item (GAD-7). Finally, a correlation analysis investigated whether there existed within the sample a relationship between levels of generalized anxiety and levels of test anxiety.

Research Questions and Hypothesis.

Primary Question. Does the level of test anxiety (measured by the WTAS) affect the score that the student receives on an exam?

Primary Hypothesis. Students who suffer from test anxiety will score lower than their peers who do not suffer from test anxiety.

Secondary Question. Does the presence of generalized anxiety (measured by the GAD-7) affect the score that a student receives on an exam?

Secondary Hypothesis. Students who suffer from generalized anxiety will score lower than peers who do not suffer from generalized anxiety.

Tertiary Hypothesis. The presence of a generalized anxiety disorder will increase the likelihood of the participant having test anxiety.

METHODS

Participants

The participants have been recruited from the following classes: Research and Methods II, Social Work with Groups, Human Behavior in the Social Environment I, Social Work Research Methods I, Social Work and Domestic Violence, Human Sexuality, and Social Work Practice I. From these courses, 25 participants were recruited and participated in the survey. The sample population is comprised of 23 women (92% of the sample) and two men. The ages of the sample group are as follows; two participants in the age range of 18-19, 10 participants in the age range of 20-29, seven participants in the 30-39 range, and five participants over the age of 40. The youngest participants were aged 19 and the oldest aged 56 with a mean age of 31.

There are 11 participants who identify as Hispanic, 10 participants that identify as White, two participants that identify as Black or African American, and two participants who identify as Native Hawaiian/Pacific Islander. The students, as predicted by their age, graduated from high school in a variety of years ranging from as recently as 2020, to as early as 1983.

Measures and Materials

The study contains a questionnaire, created by the researcher, followed by two published and validated assessment screens: The GAD-7 scale and the WTAS . The questionnaire includes a demographic section and a few questions related to the classes that the participants are involved in, the level of education that they have thus far completed, and any tutoring that they may be undertaking. In addition to the demographic questions, the

questionnaire will include the responses to the assessments were measured against the student's performance on exam one in the class in which the student was currently enrolled.

Demographic Questionnaire. Participants completed a series of demographic questions intended to provide insight into any potentially impactful variables. These four questions have been formulated by the researcher and can be reviewed in Appendix A. Questions asked participants about their age, gender, race, and year of graduation from high school. These factors were examined to identify correlations in the student's demographic and the test scores or reported anxiety levels. Presence of such patterns would help to indicate that there is a common factor among such students originating earlier in their academic history due to any of the demographic factors.

Test Questionnaire. The students completed an additional four questions developed by the researcher that formally questioned the students perceived understanding of the course material, if the student participated in any tutoring for the course, if the student felt as though they currently suffer from test anxiety, and lastly, acknowledgement of the presence of a previous diagnosis of anxiety by a medical or mental health if applicable. These questions were formulated to investigate the student's level of test anxiety, if present, and provide insight into the obvious question of the level of preparedness of the student. In addition, it was thought these questions might indicate the students reported skill levels already possessed from participation in previous classes. When taking a test, it is expected that each student will be prepared differently and have a different understanding of the material. By self-reporting this level, and if the student participated in any university resources, the researcher would be able to determine if the student took any steps and participated in any interventions before the test to help regulate their anxiety.

GAD-7 Assessment. The GAD-7 is an assessment that was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. The scale was created using nine items of symptom criteria from the DSM-IV, and four items from existing anxiety scales. The 13 items were placed into a Likert scale format and tested for reliability and validity, which ultimately led to a seven-item assessment. The assessment screens for the presence of generalized anxiety disorder. This assessment is a self-administered tool with 7 questions in which the participants will rate the frequency in which they have experienced the listed scenarios. The purpose of including this assessment is to measure any predetermined levels of anxiety that may occur regardless of any testing that may occur. This assessment will help the researcher to better assess the levels of anxiety that are produced by test taking, as there will be a baseline of general anxiety that the participant may experience. The internal consistency of the GAD-7 was considered excellent (Cronbach $\alpha = .92$), and the test-retest reliability was measuring at levels considered to be good (intraclass correlation = 0.83). There was a comparison of scores derived from the self-report scales with those derived from the MHP-administered versions of the same scales, which yielded similar results (intraclass correlation = 0.83), which indicated good procedural validity (Spitzer et al., 2006).

Westside Test Anxiety Scale. The WTAS is a 10-item instrument that is designed to identify students with anxiety impairments during test taking (Driscoll, 2004). Driscoll complied six questions assessing impairment, and four items on worry and dread into a Likert scale. The assessment was then tested for reliability and validity by using a sample population of 25 college students described as anxious, and 34 fifth graders also described as anxious. The average correlation was measured at $r = 44$, which indicated that changes in

anxiety impairment as measured by the WTAS accounted for 20% of the changes in test performance in the samples (Driscoll, 2004). A second study was completed by a third party to measure the reliability and factor structure of the WTAS among undergraduate university students in Malaysia, which presented data that indicated that the assessment is suitable for use as a screening tool for test anxiety among undergraduate level students (Talwar et al., 2019). The assessment will be used to measure the level of anxiety present when taking exams.

Procedure

This study went through a process to gain approval from the Institutional Review Board (#SHA-100620), as well as ensuring that the study is compliant with the Family Educational Rights and Privacy Act (FERPA). Students completed a survey through the university-sponsored Qualtrics platform. All of the participants read and signed the initial informed consent form and subsequently completed the survey. As previously indicated, the students first answered the four demographic questions, and the four testing-related questions. The students then completed the GAD-7, and finished with the WTAS.

Data Analysis

An independent *t*-test was used to measure the continuous variable of the level of test anxiety, which was gathered by the students' scores on the WTAS (independent variable), and the student's exam results (dependent variable). The scores of levels of anxiety were compared through an independent *t*-test to determine if there is a statistical significance between the level of anxiety that the students are reporting and their test scores. This process was repeated with the continuous data collected from the GAD-7 and the WTAS to determine a statistical significance between the level of generalized anxiety reported and the

level of test anxiety reported. Additionally, the student analyzed the nominal data gathered from the demographic questionnaire and the test questionnaire to measure the principal variables.

RESULTS

Primary Hypothesis. The respondents who measured normal to low test anxiety (*N* = 4) had a mean exam score of 74.25 (SD = 7.93). By comparison, the respondents who measured high to extremely high test anxiety (*N* = 21) had a mean exam score of 77.15 (SD = 15.69). To test the hypothesis that test anxiety would affect the exam one scores, an independent t-test was performed. The results of the *t*-test indicated that there was not a statistically significant effect, $t(23) = -.356$, $p = .725$. This indicated that test anxiety as measured by the WTAS did not significantly affect the samples exam score.

Secondary Hypothesis. Students who were measured with minimal to mild generalized anxiety (*N* = 9) using the GAD-7 had a mean exam score of 76.67, *SD* = 17.11. By comparison, Students who were measured as having moderate to severe anxiety (*N* = 16) had a mean score of 76.69, *SD* = 13.66. The *t*-test indicated that there was not a statistically significant effect, $t(23) = -.003$, $p = .997$. This indicated that generalized anxiety did not affect the sample's exam score.

The correlation analysis indicated that there was no significantly significant correlation between the GAD-7 and WTAS scores, $r(23) = .082$, $p = 696$.

Current diagnosis of anxiety, as indicated by the student's self-report, showed no evidence of being a factor for variation in exam test scores, also need to include the age and test score comparison.

DISCUSSION

When asked about anxiety, 84% of students reported that they feel as though they suffer from test anxiety. When analyzed, none of the students from the sample reported a comfortably low level of test anxiety. 16% of the sample reported moderately high normal levels of test anxiety, 40% reported moderately high to high levels, and 44% of the sample reported extremely high levels of test anxiety. In his writings about the validation of the WTAS, Driscoll reports that the scale is meant to identify students with anxiety impairments, suggesting that any score on the scale is considered to suggest that the student is impaired and the level of impairment increases as the score increases. Driscoll cites a study stating that worry and dread are thought to interfere with concentration and are closely associated with impairment, while over-arousal without the worry features is only loosely associated with impairment (Driscoll, 2004; Deffenbacher, 1980; Cassady and Johnson, 2001). This would lead one to believe that Driscoll's idea of impairment is related to the student's ability to focus.

Sixty-four percent of the sample indicated that they have a current diagnosis of anxiety from a mental health professional. Interestingly, 64% of the sample population reported moderate to severe levels of generalized anxiety, which was determined by looking at and finding the sum of the frequency percentage of the GAD-7 levels of moderate and severe. Despite there not being a significant correlation between the levels of test anxiety and exam scores, the percentage of students who indicated that they have a current diagnosis of anxiety is the same percentage that reported moderate to severe levels of anxiety on the GAD-7 scale. Upon further analysis, the sample of students that have reported a diagnosis are not the same students that scored within the moderate to severe anxiety on the GAD-7. This

highlights the students' abilities to self-analyze their anxiety levels. There are multiple factors that could influence a student's responses to an assessment, specifically the GAD-7 assessment. In general, students who enter into social work are individuals who have been either interested in mental health study, or have, at the minimum, completed mental health courses within the program. This familiarity can enhance the students' abilities to recognize signs and symptoms of mental health concerns, however, it can also expose students to the stigma associated with mental health through class discussion, community work, or family and community views of the polarizing topic. As reported by Zellmann et al., (2014), a survey of 198 social work students was conducted and the results showed that the majority of students do not hold stigmatizing attitudes toward mental illness. Students who believed mental health work is rewarding were less likely to be afraid or uncomfortable around people with mental illness. In addition, these students were more likely to report attitudes that acknowledge the capabilities of people with mental illness and were less concerned with others knowing their own mental health status (Zellmann et al., 2014). One specific question from the GAD-7, feeling afraid as if something awful might happen, correlated significantly with the samples exam scores, $r(23) = -.495$, $p = .012$. These results indicate an inverse relationship between the two variables.

The presence of demographics in the survey can help to determine if there are demographic differences present, and if so, do those differences affect the students' performance and anxiety levels. While demographics and performance are not the main focus of this study, this variable could help to indicate if there is a role ethnicity may play within the local student population. Thus, such a risk for anxiety due to ethnic background can be identified and addressed. This variable has the potential to carry significance as a significant

gap in a formal learning experience and could potentially affect the student's ability to participate in productive time management, studying techniques, or the students drive either negatively or positively. In a previous study conducted by Steven Darryll Slaughter through Texas A&M University, there is a statistical correlation between the ethnicity and socioeconomic status of the third-grade participants and their Texas Assessment of Academic Skills test scores (Slaughter, 2007). Demographics have been so heavily researched and evaluated by the academic community there is a coined term *achievement gap,* which indicates that one group of students, who have been grouped by a specific demographic factor, is outperforming the other (National Center for Educational Statistics, 2020). Universities are generally widely considered a melting pot, where people from all backgrounds, ethnicities, and other differentiating factors come together to learn and be educated.

In addition, there is a consideration to the term race and the impact that the use of that verbiage may have on the sample population. The researcher chose to pose the question of race to the sample using the term race/ethnicity. The social work dictionary describes race as the major subdivisions of the human species, who's distinguishing characteristics are genetically transmitted. Ethnicity is defined by Barker as an orientation toward the shared national origin, religion, race, or language of a people (Barker, 2014). The combination of race/ethnicity was the chosen language for the question to ensure that those participants can answer the question based on either definition. It is important to note that for some, the word race is the familiar form of self-identification, however, as described in an article from The Conversation, an online news and social theory outlet, race is not biology nor is it a linguistic-ethnic grouping. It is not class. Race is not shorthand biology or any other grouping

definition. However, continued belief in the existence of real races and the biological or social reality of the race concept provides justification for the continuation of a racially inequitable status quo – and the social marginalization of historically disadvantaged groups (Jablonski & Chaplin, 2020). One must also consider the subjective nature of a person's identity. As previously mentioned, a person's identity is not comprised wholly of physical characteristics but also includes other factors that cannot be observed such as beliefs, personality traits, and traditions. The way that a person identifies with the demographic question of race with a multiple-choice format may be just a small portion of how they fully identify. For example, a person who is multiracial may have a larger percentage of identity, measured by an analysis of their genetics, but identify with the smaller percentage. A multiple-choice questionnaire would not be able to accurately measure that person's demographic identity fully as they may feel that they need to answer based on the higher percentage.

When recruiting students to participate in the survey, the researcher spoke to the classes in person, or by video. Both mediums allowed the participants to see the physical characteristics of the researcher. There is a possibility that the characteristics of the researcher could affect the participation of the students as there may be a difference in the participant and the researcher. This difference, and the subjective experience of the subject in regards to that difference, or lack thereof, may hinder or encourage participation. Most of the research that studies the participation of people with different characteristics comes from the medical field, as the practice of medicine is extremely important for the health and safety of the subjects. One example of such an examination, comprised of 2,455 adults described as Latino and African American, indicates that in response to the question about importance of

race-matched researchers, over half of both groups replied not at all important (57% and 51%, African Americans and Latinos, respectively) and 30% of Latinos and 28% of African Americans said it was somewhat important; less than 20% of each group indicated it was very important (Garza et al., 2017). This example of the importance of the researcher and the participants differences highlights the importance of awareness of this factor when completing research.

In future studies the recruitment can be completed with an audio only clip and emails to help eliminate the visual perception of the researcher. Additionally, the researcher can avoid the use of the term race to describe for a demographic variable and include a more sensitive word choice with a definition to ensure those participating will understand how to best answer the question.

When considering the anxiety levels of students, one cannot discount the effects of the coronavirus pandemic, also known as COVID-19. A recent study compiled research literature from eight different countries, totaling 93,569 participants, looking for documentation of symptoms of anxiety related to the pandemic within that research. The results found that the COVID-19 pandemic is associated with highly significant levels of psychological distress that, in many cases, would meet the threshold for clinical relevance (Xiong et al., 2020). This increased level of anxiety must be acknowledged as a variable that can affect the students baseline level of anxiety. During the student's time at the university, many changes have occurred. At the beginning of the pandemic, the university closed the classrooms to the students, resulting in online learning and discussions. As the pandemic progressed and the world eased its lockdown, classes became a hybrid between online and in-person courses, students were required to wear masks, and extracurriculars were cancelled or

altered. This created a sense of unknown amongst the students, as the progression of the virus was unsure, and therefore, the direction of the classes and other university sanctioned events were at the mercy of local and federal regulations. A study of the psychological impacts from COVID-19 among university students indicated that all students surveyed reported being negatively affected by the pandemic in some way, and 59% of respondents experienced high levels of psychological impact (Browning et al., 2021). Additionally, the same survey stated that the students must Maslow before they can bloom, meaning that they must meet their basic physiological, psychological, and safety needs before they can focus on academic life, as over 1.5 billion students across the globe were affected by COVID-19, and rates of psychological distress were measured to be as high as 90% (Browning et al., 2021). In further studies, the researcher can attempt to differentiate between the student's baseline anxiety and anxiety induced by the conditions of the pandemic by asking additional questions about the timeframe of an anxiety diagnosis and anxiety related to COVID-19.

Strengths and Weaknesses

The target participants of this research project were originally contained within one course, research and methods. This course did not yield enough participation and the pool was widened to include: Research and Methods II, Social Work with Groups, Human Behavior in the Social Environment I, Social Work Research Methods I, Social Work and Domestic Violence, Human Sexuality, and Social Work Practice I. To recruit students, the professors of each course allowed for an informational recruitment speech, which was recorded and distributed for the online classes. The professors were then tasked with distributing numerous recruitment emails to the classes as the researcher was restricted from accessing the students emails directly but the university due to concerns of privacy. By

distributing a video for recruitment to the online sections, it could not be guaranteed that the students would watch the video and therefore the success of the recruitment may have suffered. In addition to the lack of the ability to reach all participants in person, there had to be a reliance on professors to distribute the prewritten recruitment emails, further distancing the researcher from the participants. It can be assumed that these factors, as well as the thought of releasing a test score (even if it is not published individually and is in the name of research) affected the participation of the students. In total, there were 25 completed responses that were able to be analyzed.

Just as the entire world has been affected by COVID-19, this project was also affected. The university discontinued in person classes and moved the entirety of its teaching to an online platform. This resulted in communication that was completely virtual. The participants, researcher and committee members were all impacted by this transition. Professors had to convert their courses to an online platform, students had to learn how to gain access to said platform and materials, and the important interpersonal connections were severed by the unexpected change. The Pandemic, COVID-19 also presented a crisis of mental health or change in mental health status for some students and faculty. As discussed previously, anxiety was heightened during this time for some individuals as unprecedented situations occurred and many decisions had to be made. Academically, COVID-19 has affected the continuity of learning and the delivery of course material, the safety and legal status of international students in their host countries, and students' perception of the value of their degree (Schleicher, 2020). These factors undoubtedly influenced the students' academic experience at the minimum and may have influenced the student's anxiety.

Consideration must be given to the courses in which participants were recruited. The students that completed the survey completed exams in different courses. The variation in the different courses could impact the student's exam scores for a variety of reasons including: the difficulty of the subject matter, the student's interest in the material, the format of the exam, and the professors teaching style. The different courses were also a hybrid of online and in person delivery. The students who participated from one course within the study scored markedly higher than the students from the other courses. The cause of this gap in the scores could be the result of many variables. Students choose courses for many reasons, some need to fill a requirement, however, some take a course because of an interest in the course material or a preference for that professor may be present. Either of these variables could result in the student performing better on an exam due to their interest. Annie Murphy Paul states, when we're interested in what we're learning, we pay closer attention; we process the information more efficiently; we employ more effective learning strategies, such as engaging in critical thinking, making connections between old and new knowledge, and attending to deep structure instead of surface features, and when we're interested in a task, we work harder and persist longer, bringing more of our self-regulatory skills into play (Paul, 2013). Additionally, the students may have had previous interactions with their professors before the course that was used within the study. These previous interactions may have influenced the students preconceived notions of the course, how the material is presented, and the exam. Each professor's teaching style varies, and each can be perceived as having different difficulty levels as a standard withing the courses in which they teach. Students' knowledge of these concepts, based on previous experience, may result in either heightened or lowered anxiety about the materials and the exams respectively.

In the genesis of the research project, the intent was to gather enough participants from just one course, which would have reduced the number of variables present due to the difference in courses and professors. However, due to lack or participation the recruitment had to be conducted on a larger population to ensure a larger sample collection.

One strength of the study was the use of two developed and tested scales: the GAD-7 and WTAS. The use of these tested scales helps to ensure the validity of the students measured levels of generalized anxiety and test anxiety. Additionally, some interesting data was collected from the study, including inverse relationship between the question from the GAD-7, *feeling afraid as if something awful might happen,* and exam scores, $r(23) = -.495$, $p = .012$. The idea of fear of the feeling of impending awfulness relating to test scores could warrant further investigation in a subsequent study.

CONCLUSION

This study found no statistical significance between the level of test anxiety, measured by the WTAS, and the student's exam scores, $t(23) = -.356$, $p = .725$. Additionally, there was no correlation, as evidenced by the findings, between the scores of the GAD-7 and the WTAS. Although 84% of students reported that they feel as though they have some level of anxiety, the statistical analysis indicates that the students' scores were not affected by and level of test anxiety measured by the WTAS. Despite these findings, the participants reported that 84% feel as though they suffer from test anxiety, and 64% indicted that they have a current diagnosis of anxiety. 44% of the reported test anxiety measured at extremely high levels of anxiety. It is clear that regardless of the exam scores, the students at the university are experiencing high levels of generalized and test anxiety. Additional research can be conducted throughout the university on a larger scale to determine if a larger sample population would have an effect on the outcome of the data. Research regarding test anxiety is valuable to the students and the university, as the students deserve to have the appropriate resources available to them to ensure that they have every opportunity to learn and measure their knowledge and mastery accurately, as many opportunities and resources are dependent on the students' performance.

REFERENCES

Akbary-boorang M. & Aminyazdi A. (2009). Test-Anxiety and Self-Efficacy. *Horizon of Medical Sciences Journal*. 2 (15), 70–7.

American College Health Association. (2019). G*raduate/professional student reference group: Data report fall 2019*. American College Health Association. https://www.acha.org/documents/ncha/NCHA-III_FALL_2019_GRADUATE_REFERENCE_GROUP_DATA_REPORT.pdf

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders.* 5th ed. Author.

American Psychiatric Association. (1952). *Diagnostic and Statistical Manual. Mental Disorders.* American Psychiatric Association Mental Health Hospital Service.

Anxiety and Depression Association of America. (2020). *Test anxiety*. https://adaa.org/living-with-anxiety/children/test-anxiety

Barker, R. L. (2014). *The social work dictionary*. NASW Press.

Borkovec T.D. (1976) *Conscious and Self-Regulation*: *Advances in Research* (Vol. 1)

Browning, M. H. E. M., Larson, L. R., Sharaievska, I., Rigolon, A., McAnirlin, O., Mullenbach, L., Cloutier, S., Vu, T. M., Thomsen, J., Reigner, N., Metcalf, E. C., D'Antonio, A., Helbich, M., Bratman, G. N., & Alvarez, H. O. (2021, January 7). *Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States*. PLOS ONE. https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0245327.

Cicero, M. T. (2002). *Tusculan disputations* (G. Fohlen, Trans.). Les Belles Lettres.

Dawood, E., Al Ghadeer, H., Mitsu, R., Almutuary, N., & Alenezi, B. (2016). *Relationship between Test Anxiety and Academic Achievement among Undergraduate Nursing Students.* Journal of Education and Practice, 7(2).

Deffenbacher, J.L. (1980). *Worry and emotionality in test anxiety*. I.G. Sarason (Ed.), Test anxiety: Theory, research, and applications (pp. 111–124).

Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2021, July 27). *COVID-19 and education: The lingering effects of unfinished learning*. McKinsey & Company. https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-education-the-lingering-effects-of-unfinished-learning#.

Driscoll, R. (2004). *Westside Test Anxiety Scale*. American Test Anxiety Association. Retrieved from https://files.eric.ed.gov/fulltext/ED495968.pdf

Eum, K. and Rice, K. G. (2011). Test anxiety, perfectionism, goal orientation, and academic performance. *Anxiety, Stress and Coping*, 24(2): 167-178

Eysenck, M. W., & Calvo, M. G. (1992*).* Anxiety and Performance: The Processing Efficiency Theory. *Cognition & Emotion*, 6(6), 409–434. https://doi.org/10.1080/02699939208409696

Eysenck, M., Derakshan, N., Santos, R. Calvo, M. G. (2007). Anxiety and Cognitive Performance: Attentional Control Theory. *Emotion*, 7(2), 336-353.

Garza, M. A., Quinn, S. C., Li, Y., Assini-Meytin, L., Casper, E. T., Fryer, C. S., Butler, J., Brown, N. A., Kim, K. H., & Thomas, S. B. (2017, May 24). The influence of race

and ethnicity on becoming a human subject: Factors associated with participation in research. *Contemporary Clinical Trials Communications* 7(57-63). http://dx.doi.org/10.1016/j.conctc.2017.05.009

Henriques, G., Ph. D. (2014, February 15). The college Student mental health crisis. Retrieved April 12, 2021, from https://www.psychologytoday.com/us/blog/theory-knowledge/201402/the-college-student-mental-health-crisis

Horwitz, E.K. (1988). The beliefs about language learning of beginning university foreign language students. *Modern language Journal*, 72,283,294.

Izard, C. E. (1992). Basic Emotions, Relations Among Emotions and Emotion-Cognition Relations. *Psychological Review*, 99(3), 561-565.

Jablonski, N. G., & Chaplin, G. (2020, September 18). We need to unpack the word 'race' and find new language. *The Conversation*. https://theconversation.com/we-need-to-unpack-the-word-race-and-find-new-language-138379.

Kennard, J. (2008, February 2). *Freud 101: Psychoanalysis*. HealthCentral. https://www.healthcentral.com/article/freud-101-psychoanalysis

Klein, D. F. (2002). Historical aspects of anxiety. *Dialogues of Clinical Neuroscience, 4*(3), 295-304.

Lindsay, P. C. (2010). *Assessing the relationships among achievement goal orientation, test anxiety,self-efficacy, metacognition, and academic performance*. MA thesis, Northen Illinois University.

Mower, O. H. (1947). On the dual nature of learning: a reinterpretation of conditioning and problem solving. *Harvard Educational Review*

Mowrer, O.H. 1953. A Stimulus response analysis of anxiety and its role as a reinforcing agent. In *Readings in Learning* L.M. Stolurow (Ed) Englewood Cliffs, NJ: Prentice Hall

National Association of Social Workers. (2017). *NASW code of ethics.* https://www.socialworkers.org/About/Ethics/Code-of-Ethics/Code-of-Ethics-English

National Center for Education Statistics. (2020, September 22). *Achievement Gaps*. https://nces.ed.gov/nationsreportcard/studies/gaps/

Newman, M. G., & Llera, S. J. (2011, April). A novel theory of experiential avoidance in generalized anxiety disorder: a review and synthesis of research supporting a contrast avoidance model of worry. *Clinical psychology review.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3073849/.

Nordenfelt, L. (1997). The stoic conception of mental disorder: The case of Cicero. *Philosophy, Psychiatry, & Psychology*, 4(4), 285-291.

Pekker, M. (2012, September 9). Human Anxieties Theories by Sigmund Freud. *Interpersonal Communication, Relations and Compatibility Blogspot.* https://interpersonal-compatibility.blogspot.com/2012/09/anxiety-theory-sigmund-freud.html

Rieg, S. A., Paquette, K. R., & Chen, Y. (2007). Coping with stress: an investigation of novice teachers' stressors in the elementary classroom. *Education*, 128(2), 211-226.

Rosner, B. (2020, April 30). *How Kierkegaard can help you cope with coronavirus anxiety*. ABC Religion & Ethics. https://www.abc.net.au/religion/kierkegaard-and-coping-with-coronavirus-anxiety/12203806.

Paul, A. M. (2013, November 4). *How the power of interest Drives Learning*. KQED. https://www.kqed.org/mindshift/32503/how-the-power-of-interest-drives-learning.

Schleicher, A. (2020). T*he Impact of COVID-19 on Education; Insights from Education at a Glance*. https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf.

Slaughter, S. D. (2007). *Demographic Profiles Associated with Academic Performance for Third Grade Students in North Forest and Aldine Independent School District in Texas* (Unpublished doctoral dissertation). Texas A&M University.

Sletvold, J. (2016). Freud's Three Theories of Neurosis: Towards a Contemporary Theory of Trauma and Defense. *Psychoanalytic Dialogues*, 26(4), 460–475. https://doi-org.easydb.angelo.edu/10.1080/10481885.2016.1190611

Spitzer, R. L., Kroenke, K., Williams, J. B.,Lowe, B. (2006, May 22). *A brief measure for assessing generalized anxiety disorder*. https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/410326

Strack dos Santos Goncalves, J., Lopes, P. N., Esteves, F., Fernandez-Berrocal, P. (2017). *Must We Suffer to Succeed?: When Anxiety Boosts Motivation and Performance. Journal of Individual Differences*, 38(2).

Strongman, K. (1995). Theories of Anxiety. *New Zealand Journal of Psychology*, Vol. 24(No. 2).

Talwar, P., Matheiken, S., Cheng, J., Sabil, S. (october 2019). Reliability and Factor Structure of the Westside Test Anxiety Scale among University Students. *Online Journal of Health and Allied Sciences*, 18(3), 8th ser.

Trifoni, A., & Shahini, M. (2011). How Does Exam Anxiety Affect the Performance of University Students. *Mediterranean Journal of Social Sciences*, 2(2), 93-100.

Tsegay, L., Shumet, S., Damene, W., Gebreegziabhier, G., & Ayano, G. (2019, November 14). *Prevalence and determinants of test anxiety among medical students in Addis ABABA ETHIOPIA*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6857229/

Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020, December 1). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of affective disorders*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7413844/.

Zeidner, M. (2007). Test anxiety in educational contexts: Concepts, findings, and future directions. Emotion in education. Schutz, P. A. and Pekrun, R. (Editors). *Emotion in education, Educational psychology series*, 165-184

Zellmann, K. T., Madden, E. E.; Aguiniga, D. M. (2014). Bachelor of Social Work Students and Mental Health Stigma: Understanding Student Attitudes. *Journal of Social Work Education*, 50(4), 660–677. https://doi.org/10.1080/10437797.2014.947900

APPENDIX A

Demographic Questionnaire

Gender: _____Male _____ Female _____other

Age: _____

Race/Ethnicity: _____

Year Graduated from High School: _____

Test Questionnaire

On a scale of 1-10, how confident are you in your understanding of the course material?

1 2 3 4 5 6 7 8 9 10

Do you participate in any form of tutoring?

Yes _____ No _____

Do you feel as though you suffer from test anxiety?

Yes _____ No_____

Do you have a current diagnosis of any forms of anxiety from a mental health professional or medical provider?

Yes_____ No _____

GAD-7

GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score ___ = Add Columns ___ + ___ + ___

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Westside Test Anxiety Scale

Rate how true each of the following is of you, from extremely or always true, to not at all or never true. Use the following 5 point scale.

5	4	3	2	1
Extremely or always true	**Highly or usually true**	**Moderately or sometimes true**	**Slightly or seldom true**	**Not at all or never true**

__ 1) The closer I am to a major exam, the harder it is for me to concentrate on the material.

__ 2) When I study, I worry that I will not remember the material on the exam.

__ 3) During important exams, I think that I am doing awful or that I may fail.

__ 4) I lose focus on important exams, and I cannot remember material that I knew before the exam.

__ 5) I finally remember the answer to exam questions after the exam is already over.

__6) I worry so much before a major exam that I am too worn out to do my best on the exam.

__ 7) I feel out of sorts or not really myself when I take important exams.

__ 8) I find that my mind sometimes wanders when I am taking important exams.

__ 9) After an exam, I worry about whether I did well enough.

__ 10) I struggle with writing assignments, or avoid them as long as I can. I feel that whatever I do will not be good enough.

_____ Sum of the 10 questions

_____ Divide the sum by 10. This is your Test Anxiety score. What does your test anxiety score mean?

1.0—1.9 Comfortably low test anxiety

2.0—2.5 Normal or average test anxiety

2.5—2.9 High normal test anxiety

3.0—3.4 Moderately high (some items rated 4=high)

3.5—3.9 High test anxiety (half or more of the items rated 4=high)

4.0—5.0 Extremely high anxiety (items rated 4=high and 5=extreme)

APPENDIX B

IRB Approval Letter

ANGELO STATE UNIVERSITY

College of Graduate Studies

Institutional Review Board

10/6/2020

Dr. Christopher Shar
Dept. of Social Work
Angelo State University
San Angelo, TX 76909

Dear Christopher,

The project that you submitted with your student, Abigale Kubala titled, *"The Effects of Anxiety on Colliegate Test Performance"* was reviewed and approved by Angelo State University's Institutional Review Board for the Protection of Human Research Subjects in accordance with federal regulations 45 CFR 46, expedited category F.7.

This protocol has been approved effective October 6, 2020. If the study will continue past next year, please submit a notification of continuation at that time. Please note that any revisions to these approved materials must be approved by the IRB prior to initiation. All unanticipated problems involving risks to subjects or others, and any unexpected adverse events must be reported promptly to this office.

The approval number for your protocol is #SHA-100620. Please include this number in the subject line of in all future communications with the IRB regarding the protocol.

Sincerely,

Teresa (Tay) Hack

Digitally signed by Teresa (Tay) Hack
Date: 2020.10.06 09:46:01 -05'00'

Teresa (Tay) Hack, Ph.D.
Chair, Institutional Review Board

Dr. Teresa Hack, IRB Chair | ASU Station #11025 | San Angelo, Texas 76909
Phone: (325) 486-6121 | Fax: (325) 942-2194
Member, Texas Tech University System | Equal Opportunity Employer

APPENDIX C

IRB Amendment

ANGELO STATE UNIVERSITY
College of Graduate Studies
Institutional Review Board

2/11/2021

Dr. Christopher Shar
Dept. of Social Work
Angelo State University
San Angelo, TX 76909

Dear Christopher,

The request by your student, Ms. Abby Faust (Kubala), was received by the IRB to amend protocol #SHA-100620, "*The Effects of Anxiety on Collegiate Test Performance*" that was originally approved on October 6, 2020. The amendment request to expand her recruitment to other classes has been reviewed and approved effective February 11, 2021.

Please note that the protocol will expire one year from its original approval date. If the study will continue past October 6, 2021, please submit a request for continuation before that date allowing sufficient time for review. Please note that any revisions to this protocol must be approved by the IRB prior to initiation. All unanticipated problems involving risks to subjects or others, and any unexpected adverse events must be reported promptly to this office.

Sincerely,

Teresa (Tay) Hack
Digitally signed by Teresa (Tay) Hack
Date: 2021.02.11 23:13:24 -06'00'

Teresa (Tay) Hack, Ph.D.
Chair, Institutional Review Board

Dr. Teresa Hack, IRB Chair | ASU Station #11025 | San Angelo, Texas 76909
Phone: (325) 486-6121 | Fax: (325) 942-2194
Member, Texas Tech University System | Equal Opportunity Employer

APPENDIX D

IRB Second Amendment

ANGELO STATE UNIVERSITY
College of Graduate Studies
Institutional Review Board

5/9/2021

Dr. Christopher Shar
Dept. of Social Work
Angelo State University
San Angelo, TX 76909

Dear Chris,

The request to amend your student Abigale Kubala's protocol #SHA-100620 *The Effects of Anxiety on Colliegate Test Performance* originally approved on October 6, 2020, was received by the IRB. The amendment request to add several additional courses from the Social Work department to increase her sample size was reviewed and approved effective May 9, 2021.

Please note that the protocol will expire one year from its original approval date. If the study will continue past October 6, 2021 please submit a request for continuation before that date allowing sufficient time for review. Please note that any revisions to this protocol must be approved by the IRB prior to initiation. All unanticipated problems involving risks to subjects or others, and any unexpected adverse events must be reported promptly to this office.

The number for this amended protocol is #SHA-100620a.

Sincerely,

Teresa (Tay) Hack
Digitally signed by Teresa (Tay) Hack
Date: 2021.05.09 16:06:17 -05'00'

Teresa (Tay) Hack, Ph.D.
Chair, Institutional Review Board

Dr. Teresa Hack, IRB Chair | ASU Station #11025 | San Angelo, Texas 76909
Phone: (325) 486-6121 | Fax: (325) 942-2194
Member, Texas Tech University System | Equal Opportunity Employer